

USSR Letter

Life expectancy and mortality data from the Soviet Union

MICHAEL RYAN

A striking fact about glasnost is that occasionally Soviet officials sound more critical of their country than do Western commentators. This new openness, particularly about social policy, has more than a little in common with the form of national stock taking which occurred in Britain during the second world war when plans for the welfare state were being prepared. Certainly the Soviet authorities are now showing an awareness that their previous complacency regarding the health of the population contributed to much avoidable loss of human life.

Since the leadership decided to suppress evidence of the deteriorating demographic position it is hardly surprising that for a long time virtually no public discussion took place on the need to initiate remedial measures. But today there is widespread acceptance of the fact that accurate information, in this matter as in others, is a necessary prerequisite in the struggle to combat the forces of inertia and bring about improvements. That these are urgently required turns on the now admitted fact that Soviet mortality rates lag some way behind those in other advanced industrial societies.

From the 1970s, once the relevant trend lines started to move in the wrong direction, the annual abstract of statistics published only crude death rates, thus leaving a large metaphorical blank page. The latest edition, however, signals an end to this period of obsessional secrecy.¹

Life expectancy

Table I looks at figures for the average expectation of life at birth in the Soviet Union as a whole from the years 1938-9. Between that time and 1955-6 a substantial improvement took place, with expectancy rising from 46·9 to 67·0 years. But during the 1970s, contrary to the experience of most countries, this key indicator showed a decline, from 69·5 years in 1971-2 to 67·9 in 1978-9. During that period the gap between men and women widened to the extent that, on average, men's lives were shorter by as much as 10·1 years.

Recently, however, the picture is more favourable than that conveyed by received wisdom in the West. The trend line has started to move upwards again. By 1986 the position reached in the early 1970s had been regained, albeit only just. In particular the mortality rates for men must have shown a marked improvement as the life expectancy for men now stands at its highest reported level of 65·0 years. Some commentators had suggested that this turnaround would not occur; such incaution now stands condemned.

Even so, the latest data do not compare favourably with the record of many other countries which have succeeded in breaking through the barrier identified in the psalmist's well known words: "The years of our life are three score and ten." The ordinary Soviet

citizen may well be unaware of the extent to which, for example, the United States, the United Kingdom, Japan, Sweden, and The Netherlands have forged ahead in this respect. But whatever the truth of that the leading cadres are clearly aware of the position and they recognise its seriousness. For example, early in 1987 Professor S N Fedorov, the famous eye surgeon, posed the question: "What is the matter, why has it happened that for average expectation of life our country now occupies 35th place in the world?"²

For such men it can hardly be a comforting thought that the Soviet Union risks being categorised as the sick man of Europe. Of course, the USSR overlaps two continents and it is characterised by vast geographical, economic, cultural, and ethnic heterogeneity. Such variation is reflected to some extent in the life expectancy figures for the various republics which are named after their dominant ethnic groups. Table II presents a picture which defies easy generalisation. Unsurprisingly, better than average data are recorded for the (relatively) prosperous and economically advanced areas in the western part of the vast land mass—that is, the Ukraine, Belorussia, Latvia, Lithuania, and Estonia. Again, predictably, the reverse is the case for the underdeveloped central Asian republics of Uzbekistan, Kirgizia, and Turkmenistan. The last area, which borders on Iran and Afghanistan, has the lowest life expectancy in the union—only 64·8 years.

TABLE I—Average expectation of life at birth in the Soviet Union in years

Year	Total population	Men	Women
1938-9	46·9	44·0	49·7
1955-6	67	63	69
1958-9	68·6	64·4	71·7
1971-2	69·5	64·5	73·6
1978-9	67·9	62·5	72·6
1983-4	67·9	62·6	72·8
1984	67·7	62·4	72·6
1985	68·4	63·3	72·9
1986	69·6	65·0	73·6

TABLE II—Average expectation of life at birth in each republic in years 1985-6

	Total population	Men	Women
USSR	69·0	64·2	73·3
Russian Soviet Federated Socialist Republic	69·3	63·8	74·0
Soviet Socialist Republic			
Ukraine	70·5	65·9	74·5
Belorussia	71·4	66·7	75·5
Uzbek	68·2	65·1	71·0
Kazakh	68·9	64·0	73·3
Georgia	71·6	67·4	75·1
Azerbaidzhan	69·9	65·7	73·4
Lithuania	71·5	66·8	75·9
Moldavia	66·4	63·1	69·5
Latvia	70·2	65·5	74·5
Kirgizia	67·9	64·1	71·1
Tadzhik	69·7	67·2	71·8
Armenia	73·3	70·5	75·7
Turkmenistan	64·8	61·4	67·8
Estonia	70·4	65·5	74·9

Centre of Russian and East European Studies, University College of Swansea, Swansea SA2 8PP

MICHAEL RYAN, PHD, lecturer in political and Russian studies

It is evident that the level of economic development is less than a fully reliable predictor in this matter. Thus Tadzhikistan in central Asia and the Transcaucasian republics of Georgia, Azerbaijan, and Armenia all returned above average figures. Indeed Armenia occupies the top place in the league table with an average expected duration of life of 73.3 years.

Infant mortality

In my last article in this series I suggested that spatial variation is very substantial in respect of the deaths of infants under the age of 1 year.³ I could not quantify the point conclusively as infant mortality data for the 15 republics were not available at the time. I can now remedy that omission. Table III shows that part of the explanation for the great variation is provided by economic geography. For

TABLE III—Number of children dying before the age of 1 year per 1000 live births in each republic, 1985 and 1986

	1985	1986
USSR	26.0	25.4
Russian Soviet Federated Socialist Republic	20.7	19.3
Soviet Socialist Republic:		
Ukraine	15.7	14.8
Belorussia	14.5	13.4
Uzbek	45.3	46.2
Kazakh	30.1	29.0
Georgia	24.0	25.5
Azerbaijan	29.4	30.5
Lithuania	14.2	11.6
Moldavia	30.9	26.4
Latvia	13.0	13.0
Kirgizia	41.9	38.2
Tadzhik	46.8	46.7
Armenia	24.8	23.6
Turkmenistan	52.4	58.2
Estonia	14.0	16.0

example, the western republics and central Asia occupy the two extremes of the range while Moldavia and Transcaucasia fall in between. Incidentally, it may well be that figures for regions within the Russian Soviet Federated Socialist Republic would also range widely, but neither for this table nor the others is such a breakdown available.

Another methodological point concerns the fairly appreciable increase in the highest republican rate. The rate in Turkmenistan rose from 52.4 to 58.2 per 1000 live births over the years 1985-6. But I do not know to what extent the trend reflects more stringent reporting procedures.

Age specific rates

The latest annual abstract of statistics also contains age specific death rates for the USSR as a whole; these are reproduced in table IV. Perhaps the most obvious comment prompted by this table is that from 1958-9 a decline has taken place in mortality among all groups up to and including those aged 35 to 39. When the shorter time span from the late 'seventies is examined you can see that the decreases continued further up the age range. Over that period a particularly striking fall was registered for the 35 to 39 year olds—from 4.3 to 3.0 per 1000 people in the age group. Unfortunately, the data are not broken down by sex.

Arguably, it is the final table which would afford the authorities most reason for concluding that centrally imposed policies, if resolutely pursued, can have an important impact on the health of the people. Admittedly, table V shows that a slight deterioration occurred in mortality among people of working age over the period 1970-86. But, perhaps more importantly, it also shows that a sharp reduction has been achieved since 1980. From the subtotals for the major causes of death we can see that this is ascribable partly to the decrease in deaths from accidents, poisonings, and traumas which occurred during the two years 1985-6.

TABLE IV—Death rates by age group per 1000 population

Age	1958-9	1969-70	1978-9	1982-3	1984-5	1985-6
All ages	7.4	8.2	9.9	10.2	10.7	10.2
0-4	11.9	6.9	8.1	7.9	7.7	7.6
5-9	1.1	0.7	0.7	0.6	0.6	0.6
10-14	0.8	0.6	0.5	0.5	0.5	0.5
15-19	1.3	1.0	1.0	1.0	0.9	0.9
20-24	1.8	1.6	1.7	1.6	1.5	1.4
25-29	2.2	2.2	2.3	2.2	2.0	1.7
30-34	2.6	2.8	2.9	2.9	2.8	2.3
35-39	3.1	3.7	4.3	3.8	3.6	3.0
40-44	4.0	4.7	5.4	5.6	5.7	4.9
45-49	5.4	6.0	7.8	7.4	7.3	6.6
50-54	7.9	8.7	10.3	10.9	11.3	10.1
55-59	11.2	11.7	13.5	14.3	15.1	14.1
60-64	17.1	18.0	20.1	19.8	20.4	19.5
65-69	25.2	27.5	29.2	30.7	31.1	29.6
70 and over	63.8	75.7	76.5	74.0	78.7	77.6

TABLE V—Main causes of death among people of working age per 100 000 population

	1970	1980	1985	1986
Deaths from all causes	399	499	470	401
Diseases of the circulatory system	88	137	135	120
Accidents, poisonings, and traumas	142	169	145	109
Malignant neoplasms	76	93	93	94
Diseases of the respiratory organs	23	29	28	20

Underlying that trend line, almost certainly, is the package of measures that Mikhail Gorbachev imposed in an attempt to combat the pervasive social and economic problems created by the high incidence of drunkenness and alcoholism. Unveiled in May 1985, the more draconian of these measures have caused widespread resentment, pushed up the production of home-distilled vodka, and much reduced the state's income from alcohol sales. Against that can be set the prevention of many premature deaths and the irretrievable loss of human potential.

Perestroika in health matters

In 1987 the Soviet leadership recognised the imperative need to intensify the effectiveness of preventive measures by placing that topic in the forefront of a lengthy document which sets out a programme of truly radical changes in health care. Published first in draft form to allow for discussion and for the submission of comments, it became law at the end of November 1987. Its somewhat cumbersome title is *Basic Guidelines for the development of health care of the population and perestroika of the USSR's health service in the 12th Five-year Plan period and for the period up to the year 2000*.⁴

The preamble refers to the unsatisfactory mortality and morbidity record as well as to other problems that must be addressed. One passage which is particularly relevant gives the following bleakly realistic appraisal of fitness of the general public. "Over a period of many years the necessary attention has not been devoted to work on the formation of a healthy mode of life. More than two thirds of the population are not involved in the systematic pursuit of physical culture and sport, up to 30% are overweight, and about 70 million persons smoke. [That figure represents a quarter of the population.] Drunkenness and alcoholism are widespread, and the number of persons who have recourse to narcotics is increasing."

So what is to be done? Typically for Soviet documents of this kind, many high sounding generalities are pronounced, but many specific policy initiatives are also set out. I shall mention only a few which bear on "the formation of a healthy mode of life." Taken in the proposed order of implementation, the first concerns an anti-smoking campaign. Starting this year there will be "a wide complex of medical, legal, organisational and educational measures." No precise details are given.

Next year a unified programme for the physical education of the population will be prepared and will start to be implemented. One

of its longer term objectives will be to ensure that all schoolchildren and students in various types of educational establishments should undertake not less than six to eight hours of physical exercise a week. Furthermore, the document requires an expansion in the number of sports facilities at places of work and the creation of financially self supporting physical culture and health establishments in residential areas. Interestingly, a role has been assigned to work collectives in that their resources will be drawn on—with their agreement—for the construction of health centres which will use “methods of toughening up, physical training, psychological relaxation and other means of strengthening health.”

Recognising the vital importance of an appropriately balanced diet, the document also refers to “measures for improving the quality and rational use of food products.” That touches a notorious pressure point in the Soviet economy and it hardly reflects much credit on the leadership that they have to designate 1991 as the year in which the demand for various types of baby food should be “fully satisfied.”

A broadly comparable failure that is implicitly admitted concerns infectious diseases of the intestines and viral hepatitis. Thus the health service is called on to reduce the incidence of those illnesses “by preventing the contamination of drinking water and food products with microbes and viruses.”

Conclusion

I suggest that there can be no mistaking the sense of urgency now being conveyed by the leadership of Soviet medicine—and especially by the USSR Health Minister, Evgenii Chasov, who will stand or fall according to the success of the perestroika in his area of responsibility. Now that the mortality experience of the recent past has been at least partly revealed and the agenda has been set for reform, it seems imperative for the USSR to demonstrate an ability to improve its health record. Failure to do so would bring in its trail a set of adverse consequences, some of them profoundly embarrassing. One would be the contention that, whatever its military pre-eminence as the second global superpower, in matters of health the Soviet Union could be equated with countries of the Third World.

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Personal Paper

A cautionary tale

STANLEY ALSTEAD

“Feels to me like an earthquake,” growled the languid latissimus dorsi. “I agree,” murmured the angular trapezius, “but at some distance away. Did you feel anything, subscapularis?” “Indeed I did,” replied subscapularis: “I’ve been pushed around with my neighbours more than I like. Perhaps intercostals know what’s going on. I’ll ask viii/ix.” “I’m in a bloody mess—and that’s literally true,” yelled intercostals, “muscles in shreds, nerve endings lying loose, and heaven knows what’s happened to those broken ends of rib.” “Any holes in the pleura?” demanded latissimus dorsi, rousing himself. “Both layers intact,” replied intercostals, “but after that hellish crack, it’s early days; maybe there’s more trouble ahead—perhaps a pneumothorax with its own complications. . . .”

This anatomical fantasy flitted through my mind soon after the accident. But let’s start at the beginning. It was a serene autumn morning. In the west Ben Ledi and Ben Venue smiled benignly on a golden Perthshire—a perfect day for tidying up the garden. My wife beside me, we surveyed the tranquil scene with deep satisfaction.

“The old cherry tree by the gate is marvellous in this golden light,” murmured Janet.

“Just what I was thinking,” I replied, “but that dead branch in the middle of it is an eyesore. We must get it out.”

“A difficult job, surely?” queried Janet.

“No problem,” I declared confidently, “I’ll make it my first job. Firstly, I’ll lash it to the wrought iron gate and keep it under

tension. Then, when I’m ready, I’ll make it fall sideways—and not on my head,” I went on, warming to the prospect of an interesting exercise in dynamics.

“Very scientific, but do take care with that big ladder,” said Janet, adding—as she retreated towards the house—“82 is not 28.”

Man on the flying trapeze

The saw had almost divided the stout branch, some three metres above the ground: this was the penultimate stage. It remained to dismount the ladder and swing the heavy gate, thus—by traction—completing severance. As I descended I realised, not for the first time, that going up is easier than coming down. On the descent I could not see my feet: there was the usual element of guesswork; I took my bearings at eye level and accepted such proprioceptive impulses as penetrated the thick soles of my gardening boots. My guess was wrong: I let go of the ladder and was instantly air borne. For a moment I enjoyed the ecstasy of the man on the flying trapeze who “flew through the air with the greatest of ease.” But all too soon I made intimate acquaintance with the jagged slabs of granite lining the flower border.

I crouched on the ground, immobilised by shock. After a few minutes I stood up slowly, noting with interest bony crepitus in my left flank. The cherry tree branch was also creaking ominously. This was a summons I could not resist. I swung the heavy gate; the nylon rope grew taut and then the massive branch fell with an impressive crash.

Mission accomplished, I retired slowly to the house for coffee and sympathy. I needed both. My broken bones emitted their peculiar

Dunblane FK15 0DJ

STANLEY ALSTEAD, MD, FRCP

Correspondence to: Glenholme, Glen Road, Dunblane FK15 0DJ.